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**CAMERON STATION, ALEXANDRIA, VIRGINIA**



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AUTHOR: Gol'dshtik, M. A.

TITLE: Prandtl tube with a thermistor angle gage

PERIODICAL: Inzhenerno-fizicheskiy zhurnal, v. 5, no. 10, 1962, 82 - 85

TEXT: To improve the efficiency of existing pneumatic probes, an instrument for measuring rates and directions of flow was devised in the form of a Prandtl tube with a pair of tungsten wires (of  $20\mu$  diameter) forming a V on its nose, the axis of this arrangement coinciding exactly with that of the Prandtl tube. The wires are heated by a current of 200 - 300 ma and their temperatures depend on the cooling conditions. When a flow of air strikes the tube with the wires at an oblique angle the wires will be at different temperatures. The difference in the resistances of the two wires caused by the temperature difference is measured by a bridge circuit and is used for adjusting the Prandtl tube. At a current of 240 ma the sensitivity of the experimental arrangement is  $6 - 7\mu\text{a}/\text{degree}$ . Finally, a device is described which operates with an ЭПВ-01 (EPV-01) potentiometer and is used to adjust the Prandtl tube in an

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Prandtl tube with a thermistor...

air flow automatically. There are 3 figures.

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SUBMITTED: February 22, 1962

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